regions where the wires 2112 are bonded. These pits can have, for example, a hemispherical shape, rectangular shape, pyramidal shape or any other shape. If such an array of pits are used and the wire is bonded in the region of the pit, a protuberance such as 2128 of FIG. 36 is formed at the surface 2232 of flattened ball. This protuberance provides a projecting region to the contact formed by flattened ball 2124 which can wipe on the surface of the contact location to which the flattened ball is to be electrically connected.--

IN THE CLAIMS

30. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein the electronic device is a semiconductor wafer.

32. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein the area of the electronic device is a portion of a surface area of the electronic device.

33. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof;

the flexible contact elements substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component;

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component, and the electronic device is a printed circuit board.

34. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof;

the flexible contact elements substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component;

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component, and the electronic device is a packaging substrate.

35. (Amended) A method according to [claim] any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein the flexible elements are probe elements.

37. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof;

the flexible contact elements substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component;

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component, and the flexible elements are wires disposed on the surface of the second substrate, the wires are shaped so that a free end thereof laterally moves when pressed against the area of the electronic device.

38. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein there are electrical connections between the second substrates and the first substrate.

39. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein the first substrate is a space transformer.

40. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein the electronic device is a semiconductor wafer; and the flexible contact elements of the second substrate contact individual semiconductor dies on the semiconductor wafer.

41. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein the electronic device is a semiconductor wafer; and the flexible contact elements of the second substrate contacts at least one integrated circuit on the semiconductor wafer.

42. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof;

the flexible contact elements substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component;

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component so that a free end of the flexible contact elements laterally move when pressed against the area of the electronic device, and the second substrate is aligned to the first substrate by a socket which electrically interconnects the first substrate and the second substrate in a substantially fixed position with respect to each other.

43. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof;

the flexible contact elements substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component;

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component so that a free end of the flexible contact elements laterally move when pressed against the area of the electronic device, and the first substrate with the second substrate mounted thereto is mounted to an electrical testing apparatus.

44. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein the first substrate with the second substrate mounted thereto is mounted to an electrical testing apparatus by a plurality of electrical connections.

45. (Amended) A probe [card] structure comprising an assembly comprising:

[a probe card;]

a first substrate having a top surface, a bottom surface, a first plurality of terminals disposed on the top surface, and a second plurality of terminals disposed on the bottom surface;

at least one second substrate having a top surface and a bottom surface;

means for effecting electrical connections between the at least one second substrate and the first substrate;

a plurality of probe elements disposed on the top surface of the at least one second substrate; and

the probe elements are free-standing flexible conductors shaped so that a free end thereof laterally movers when pressed against a surface.

46. (Amended) A [probe card assembly,] structure according to claim 45, wherein the probe elements are free-standing flexible conductors.

47. (Amended) A [probe card assembly,] structure according to claim 45, wherein [tip structures] protuberances are [mounted to] deposed at ends of the plurality of free-standing flexible conductors.

48. (Amended) A [probe card assembly,] structure according to claim 45, wherein the free-standing flexible conductor further includes a protuberance at an end thereof.

50. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, further including plurality of groups of said plurality of the flexible electrical contact elements.

51. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein there is a least one of said second substrates mounted to said first substrate.

52. (Amended) A method according to any one of claims 29, 33, 34, 36, 37, 42, 43 or 53 to 60, wherein there are a plurality of said second substrates mounted to said first substrate.

59. (Amended) A probe [card] assembly according to claim 45 wherein said freestanding flexible conductors are shaped to flex and wipe the area of the electronic device, the freestanding flexible conductors substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component.

60. (Amended) A [probe card] structure according to claim 49 wherein said freestanding flexible conductors are shaped to flex and wipe the area of the electronic device, the freestanding flexible conductors substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component.

65. (Added) A structure according to any one of claims 59 or 60, wherein the electronic device is a semiconductor wafer.

66. (Added) A structure according to any one of claims 59 or 60, wherein the area of the electronic device is a portion of a surface area of the electronic device.

67. (Added) A structure according to any one of claims 59 or 60, wherein there are electrical connections between the second substrates and the first substrate.

68. (Added) A structure according to any one of claims 59 or 60, wherein the first substrate is a space transformer.

69. (Added) A structure according to any one of claims 59 or 60, wherein the electronic device is a semiconductor wafer; and the flexible contact elements of the second substrate contact individual semiconductor dies on the semiconductor wafer.

70. (Added) A structure according to any one of claims 59 or 60, wherein the electronic device is a semiconductor wafer; and the flexible contact elements of the second substrate contacts at least one integrated circuit on the semiconductor wafer.

71. (Added) A structure according to any one of claims 59 or 60, wherein the first substrate with the second substrate mounted thereto is mounted to an electrical testing apparatus by a plurality of electrical connections.

72. (Added) A structure according to any one of claims 59 or 60, further including plurality of groups of said plurality of the flexible electrical contact elements.

73. (Added) A structure according to any one of claims 59 or 60, wherein there is a least one of said second substrates mounted to said first substrate.

74. (Added) A structure according to any one of claims 59 or 60, wherein there are a plurality of said second substrates mounted to said first substrate.

75. (Added) A structure according to claim 49 wherein said free standing flexible conductors comprise a coating.

76. (Added) A structure according to claim 75 wherein said coating is selected from the group consisting of Au, Cr, Co, Ni and Pd.

77. (Added) A structure according to claim 76 wherein said free standing flexible conductor comprises gold, gold alloy, copper, copper alloy, aluminum, nickel, palladium and platinum.

78. (Added) A structure comprising:

at least one first substrate adapted to be mounted to a second substrate;

said at least one first substrate has two opposite surfaces;

free standing flexible conductors extending from one of the two surfaces shaped so that a free end thereof laterally movers when pressed against a surface;

terminals on an other of the two opposite surfaces;

means, within each of the first substrates, for connecting the terminals to the contacts; and

said at least one first substrate is mounted on to the second substrate.

79. (Added) A structure according to claim 78 wherein said freestanding flexible conductors comprise a coating.

80. (Added) A structure according to claim 79 wherein said coating is selected from the group consisting of Au, Cr, Co, Ni and Pd.

81. (Added) A structure according to claim 80 wherein said free standing flexible conductor comprises gold, gold alloy, copper, copper alloy, aluminum, nickel, palladium and platinum.

82. (Added) A structure according to claim 78 wherein said freestanding flexible conductors are shaped to flex and wipe the area of the electronic device, the freestanding flexible conductors substantially compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component.

83. (Added) A structure comprising:

a first substrate adapted to be mounted to a second substrate;

the first substrate having two opposite surfaces;

free standing flexible conductors extending from one of the two surfaces shaped so that a free end thereof laterally movers when pressed against a surface;

terminals on an other of the two opposite surfaces;

means, within the first substrate, for connecting the terminals to the contacts; and

the plurality of the first substrates are mounted on to the second substrate.

84. (Added) A structure according to claim 83 wherein said freestanding flexible conductors comprise a coating.

85. (Added) A structure according to claim 84 wherein said coating is selected from the group consisting of Au, Cr, Co, Ni and Pd.

86. (Added) A structure according to claim 85 wherein said free standing flexible conductor comprises gold, gold alloy, copper, copper alloy, aluminum, nickel, palladium and platinum.

87. (Added) A structure according to claim 83 wherein said freestanding flexible conductors are shaped to flex and wipe the area of the electronic device, the